

Christopher R. Culpepper

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CAREER OBJECTIVE

To continue my career in Electrical or Computer Engineering: designing electronic hardware, working in the RF domain, or creating embedded software, preferably in the aerospace or subsurface domain.

EXPERIENCE

Senior Electrical Engineer (Previous Systems Engineer and Co-op) *July 2013 - Present*
General Dynamics Mission Systems, Pittsfield MA

- Developed and executed evaluation and qualification tests for inherited hardware
- Performed integration and repair operations on legacy hardware
- Performed tasking at customer locations and pre-deployment locations
- Go-to person in the lab to diagnose and troubleshoot weird hardware and installation issues
- Performed software and systems testing on high-integrity mission-critical software

Test Engineer Co-op

January 2016 - May 2016

Space Exploration Technologies, Hawthorne CA

- Designed and built hardware to test bias-T HD cameras
- Created software to automate the creation of trouble reports
- Developed tests to test flight avionics hardware
- Troubleshoot issues with avionics test racks

PROJECTS

24 Hours of Lemons Racecar

- Procured \$500 racecar, and gathered 5 person team
- Personally designed and worked together with team to build roll cage to specifications
- Operated under strict deadlines to complete car
- Organized and managed team of 5 people to help build car

Radio-Internet Hotspot Transceiver (Multidisciplinary Senior Design)

- Worked as a team leader to complete self-appointed tasks
- Completed final PCB design, layout, assembly and test (It worked!)
- Device acted as an audio bridge between RF and the Allstar radio network
- Completed entire design process from customer requirements to prototyping and handoff

Bluetooth Split Mechanical Keyboard (In Progress)

- Designed symmetrical split keyboard PCB to reduce PCB cost
- Keyboard PCB acts as mechanical plate to secure the keystitches
- Each side of the keyboard has an identical circuit to use for the right or left
- Utilizes a Bluetooth capable microcontroller instead of a Bluetooth module
- Currently developing software, will include master/slave arbitration, USB connectivity

Wideband Oxygen Sensor Controller

- Designed, built and programmed sensor controller that measured oxygen concentration
- Incorporated PID loops to keep a sensor at a constant temperature and oxygen concentration
- Could have been calibrated to measure accurate oxygen concentrations

Assembly Language Pong Game

- Created a 1.5D Pong game for a school project in HCS12 assembly
- Required HCS12 assembly, PWM, ADC and digital output

Various Other Projects:

RIT Rocket Initiative power board

3D Printer modifications

Many input thermistor controller (in progress)

DSLR 12V battery eliminator (in progress)

AWARDS & SKILLS

Eagle Scout

A+ Certified

Languages & Software:

C

Python

Linux

ARM & HCS12 Assembly

Kicad PCB Design Software

DOORS Requirement Management

VHDL

Networking Equipment Configuration

EDUCATION

Bachelor of Science, Computer Engineering

Rochester Institute of Technology, Rochester NY, Graduated May 2017

Data Communication and Networks

Digital IC Design

Digital System Design

Cyborg Theory

Assembly Language Programming

HW & SW Design for Crypto Applications

PERSONAL INTERESTS AND HOBBIES

Working towards pilot licence

Camping and hiking

Amateur Radio Extra

Film photography

Motorcycle and automobile repair

Licked thing that was in space